Avaya BCM Solutions Test Lab

Business Communication Manager (BCM) 50 Release 3.0 and BCM450 Release 1.0 Configuration Guide for Optus Evolve Voice SIP Trunking

Issue 1.0

Abstract

This document provides guidelines for configuring a SIP Trunk between a BCM50 Release 3.0 and BCM450 Release 1.0 for Optus Evolve Voice SIP Trunking

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1.0 Introduction

This document is intended to provide information to installers configuring a BCM50R3 or a BCM450R1 for SIP trunk inter-working with the Optus Evolve Voice network. The information provided is specific for the SIP trunk inter-working, unrelated configuration is not considered within this guide. This document assumes that the installer has undergone Nortel approved BCM training and has a working knowledge of BCM installations.

1.1 Document Change History

Date Version	Summary of Changes
December 21st 2009 V0.03	Original publication
January 13th 20101, v0.05	Removed technical caveat whereby BCM does to acknowledge a 503 response from the network. A patch that fixes this issue was provided to Optus.
February 4th 2010, v0.06	Aligned with Avaya template

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2.0 System Software / Loadware

To achieve successful interoperability between the BCM and OPTUS Evolve Voice SIP Trunking, the various network elements must the running the version of software as shown below:

System	Platform	Firmware
BCM 50	All platforms	• Release 3.0 plus most recent smart update
BCM450	All platforms	• Release 1.0 plus most recent smart update
Nortel BCM Phones	All supported phones	0624C6T or higher

Table 1 Validated Equipment and Software

3.0 Technical Caveats

1. The Optus Evolve Voice network requires that all signaling and media to/from the BCM terminates/originates to one IP address, if IP phones and/or clients are deployed then the BCM, IP phones, and clients would need to reside behind a router employing NAT.
2. The Optus Evolve Voice network requires that 10 digits are sent as the OLI. Depending upon the configured OLI digit length, additional digits may need to be added in the Public network dialing plan, see **item 5.5.1** below
3. The default DNIS number from the Optus Evolve Voice network has the full 10 digit national number which includes the leading zero. This leading zero conflicts with the default destination code zero on the BCM [in the Australian profile]. It should be requested that the digits being sent do not include a leading digit zero.
4. On an incoming INVITE message the BCM can only use the 1st codec in the offer list, it does not utilize the codec in the preferred codec list. It should be requested that the network be configured with the desired codec being the 1st codec in the INVITE message. Outgoing calls use the codec as per the configured preferred codec list.

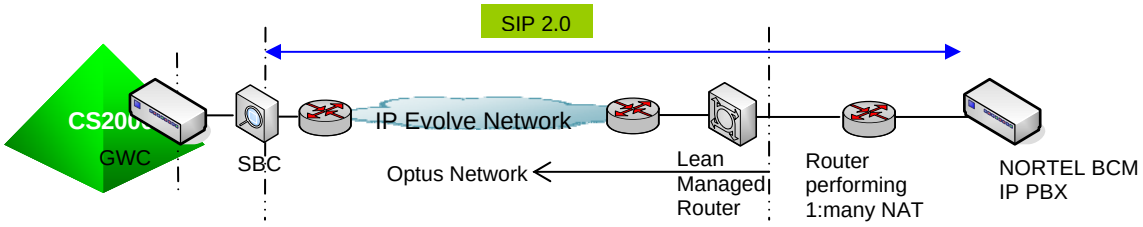
4.0 Overview

Inter-operability with the Optus Evolve Voice network is demonstrated in the Optus document “Vendor Equipment SIP Compliance Test Plan, Issue 1.0”. The test plan focuses on call placement/routing through the Optus network. The wealth of BCM features & applications were not part of the test plan.

Generic SIP inter-operability for the BCM is described in the Nortel document “SIP Interoperability Considerations and Technical Specifications for BCM50 Release 3.0 and BCM450 Release 1.0, Issue 2.0” [Document number NN40020-201].

The schematic diagram below depicts relevant network components. Note that a router is shown on the CPE side which would be required if IP phones/clients are deployed as described in Technical Caveats in 3.0 above.

With a Session Border Controller being deployed, the BCM considers this as the SIP Proxy.



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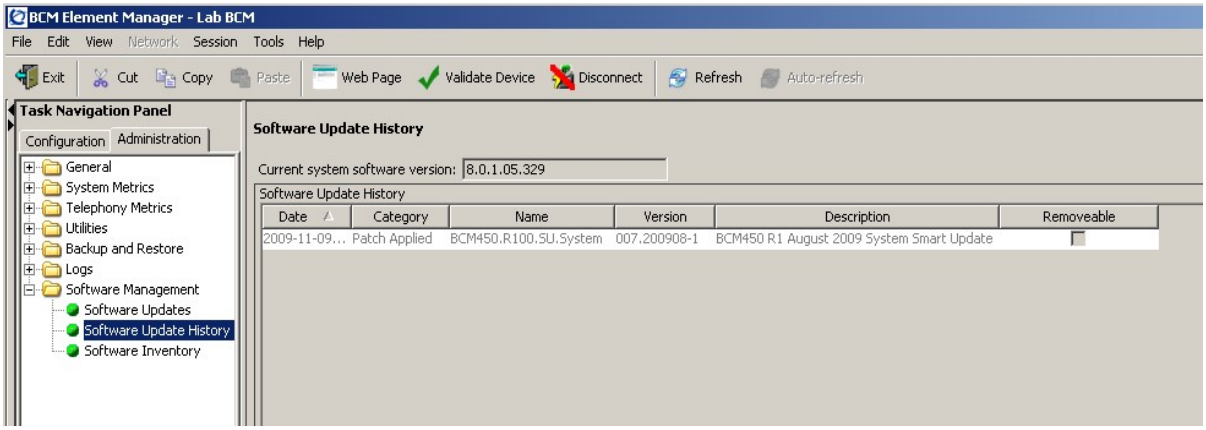
5.0 Configuration Guide

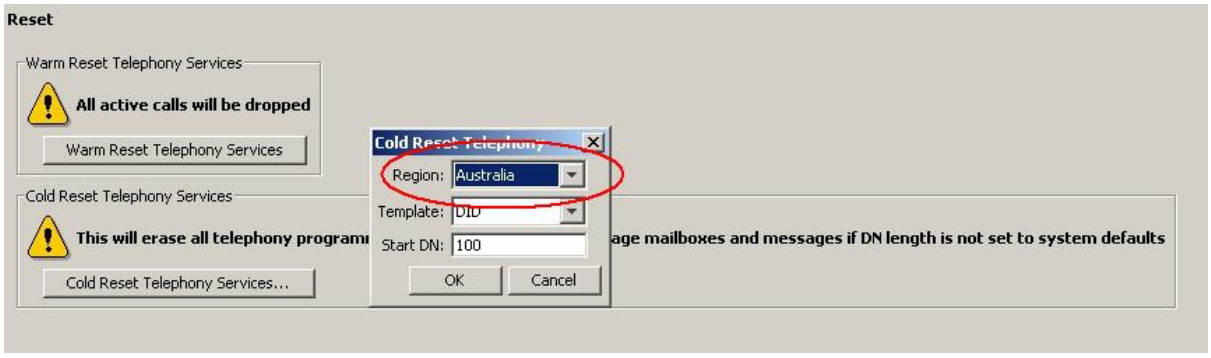
5.1 The BCM must have the latest relevant patches applied. Below shows the latest System patch available when testing was performed.

Administration > Software Management > Software Updates



5.2 The BCM must be configured using the Australian profile.

Administration > Utilities > Reset > Cold Reset Telephony Services



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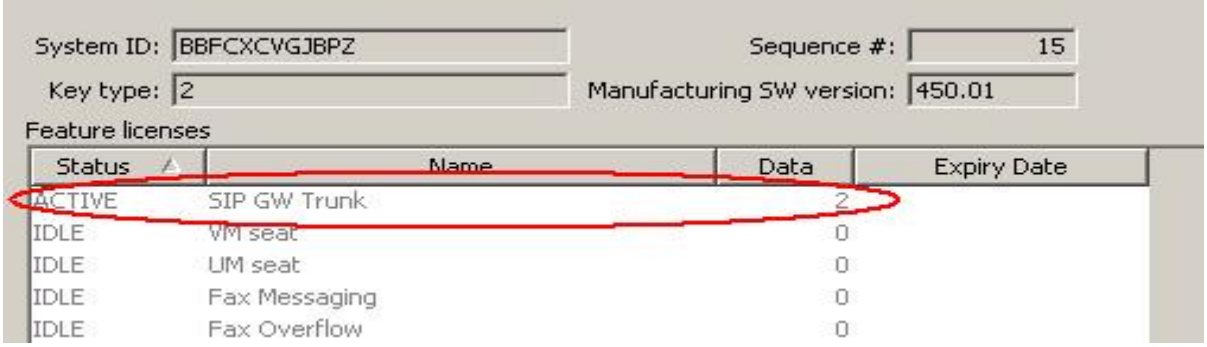
5.3 The BCM must have licensing which includes active SIP trunks:

Configuration > System > Keycodes

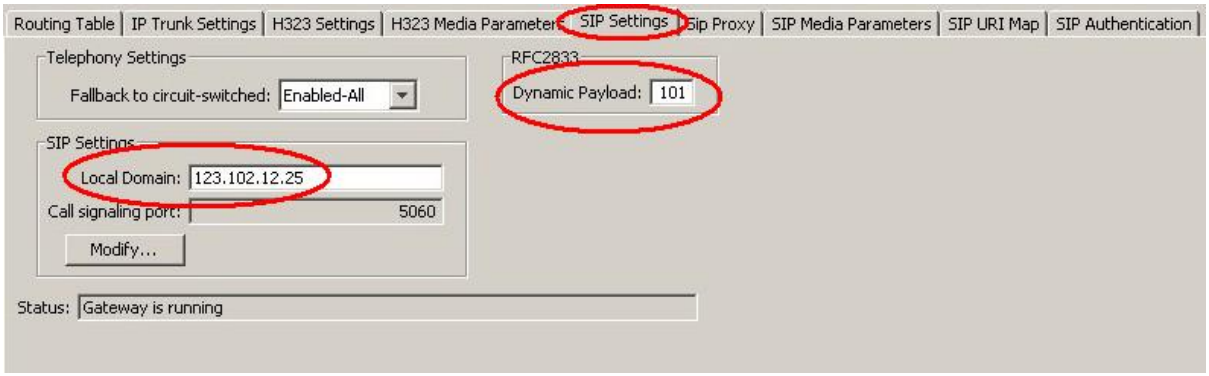


5.4 SIP Parameters

Configuration > Resources > Telephony Resources > IP Trunks

5.4.1 SIP settings

Local Domain: The IP address of the Session Border Controller. Obtain this information from Optus.
Dynamic Payload: Changed from default, use a value of 101.



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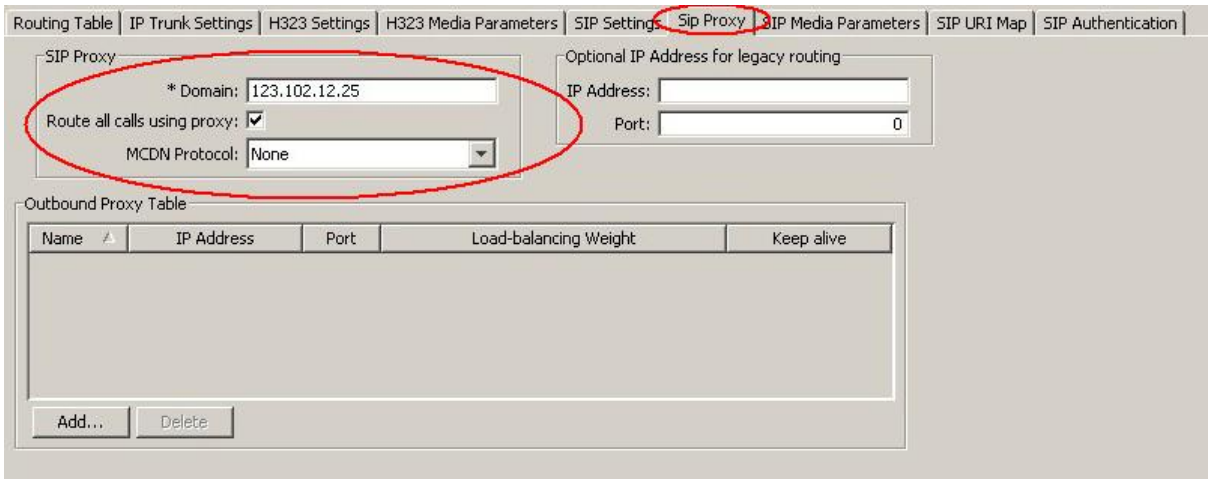
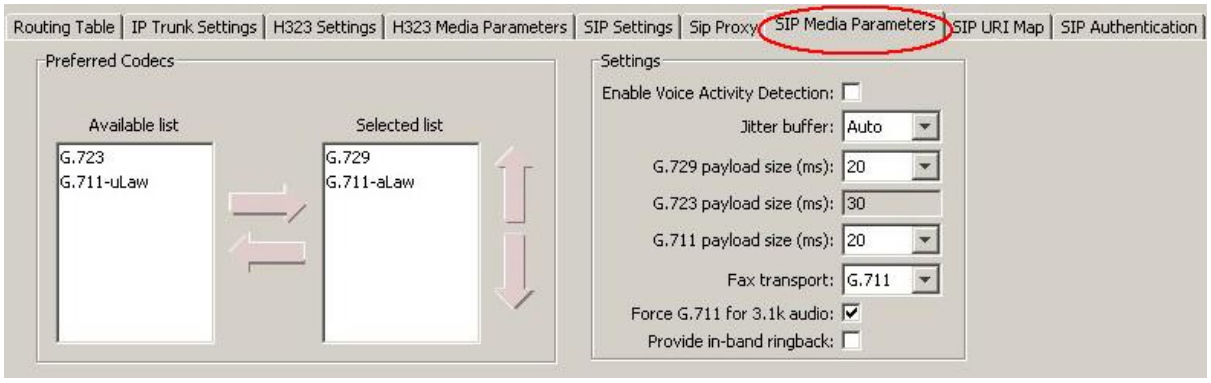
5.4.2 SIP Proxy

Domain: The IP address of the Session Border Controller. Obtain this information from Optus.
Route all calls using proxy: Checked
MCDN Protocol: None.



5.4.3 SIP Media Parameters:

Selected codecs: G.729 is the preferred codec. G.711a is required for faxing.
Enable Voice Activity Detection: Unchecked
Jitter buffer: Auto
G.729 payload size: 20ms
G.711 payload size: 20ms
Fax transport: G.711
Force G.711 for 3.1KHz audio: Yes [required for successful faxing]
Provide in-band ringback: Unchecked



5.4.4 SIP URI Map

All values at default

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5.4.5 SIP Authentication

No configuration required

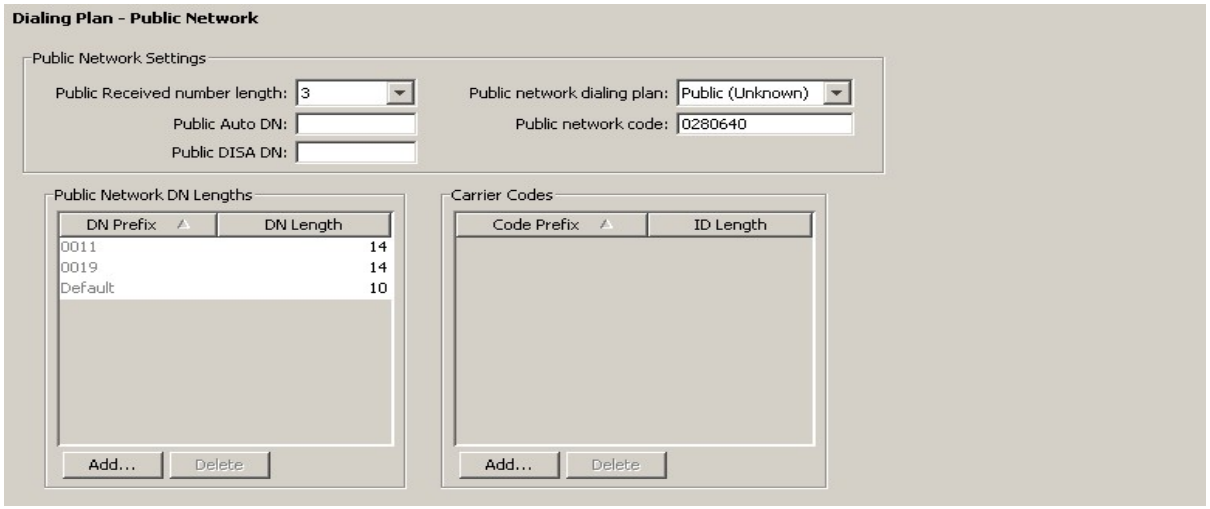
5.5 Dialing Plan

5.5.1 Public Network

Values will depend on the installation, below are examples required during testing.
Refer to Special Note 2.2 regarding OLI digits.

Configuration > Telephony > Dialling Plan > Public Network

Public Received Number Length: 3 [example used for testing]
Public Network Code: 0280640 [required so that 10 digits are sent to the network]
Public Network DN Length > Default: 10
Public Network DN Length > 0011: 14 [required for international out dial]
Public Network DN Length > 0019: 14 [required for international out dial]



5.5.2 Routing

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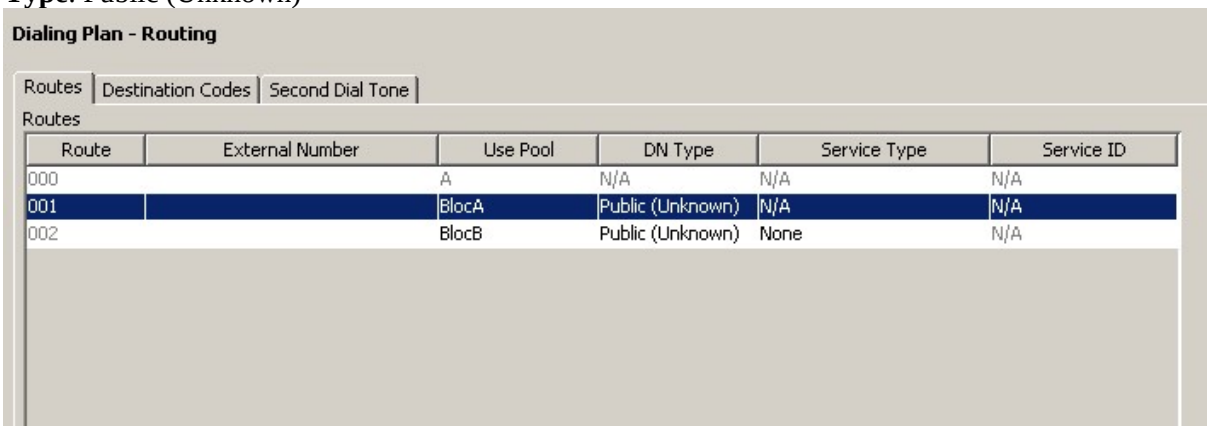
Values will depend on the installation, in the example below BlocA refers to VoIP lines.
Schedules may be created to provide fallback to other out dial routes.

Configuration > Telephony > Dialing Plan > Routing

DN Type: Public (Unknown)



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If you have any issues with the solution described in this document, please contact 1-800-4-NORTEL.